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METHODS AND SETS OF PICONETS USING TIME FREQUENCY DIVISION
MULTIPLE ACCESS

ABSTRACT OF THE DISCLOSURE

[0132] A set of piconets and corresponding methods and computer programs may reduce contention time between piconets. In one embodiment, a seven-length code architecture may be used with group(s) of bands so that contention time cannot exceed $1/7$ of the time. Up to seven different bands can be used within each group. When less than seven bands are used (e.g., three or six), at least one of the bands may be assigned to more than one dwell time during a time span. Alternatively, each dwell time within the time span may be assigned to a different band. The state may be changed as needed or desired. Substitution of extra bands may also be used. Using either scheme (repeated bands or changing states), a prime-number architecture can be used with a non-prime number of different bands. Simultaneous communications using at least two bands within a piconet may be used.